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EXAMINER

JEFFERY, JOHN A

ART UNIT PAPER NUMBER

3742

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Information Disclosure Statement

The examiner acknowledges applicant's request for the examiner to review and initial the IDS filed Feb. 19, 2004 ("the Feb IDS"). Remarks, Page 11. However, that IDS is not present in the application file; only the Supplemental IDS filed Dec. 7, 2004 is currently in the record. Because the Feb. IDS has not been entered into the file, applicant must resubmit that IDS for consideration.

Statutory Text in Previous Office Action

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Withdrawal of Allowability

The indicated allowability of claim 23 is withdrawn in view of the newly discovered prior art to DE3147085 and Jane et al (US 6,091,888). The delay in citation of this art is regretted. Rejections based on the newly discovered prior art follow.

Claim Objections

Claim 36 is objected to because of the following informalities:

In line 5, "elements" must be changed to "element" for consistency.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 25, 27, 28, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503) and further in view of Holland (US 3,739,792). Phyle (US 5,584,564) discloses an umbrella with lamps 12 mounted to the outer surfaces of radial supports 22. See Figs. 1, 4, and 5 and col. 3, lines 12-24.

The claims differ from Phyle (US 5,584,564) in calling for an infrared heating element. Although Phyle (US 5,584,564) teaches that the lamps 12 are used to illuminate the area underneath the umbrella, such illumination lamps are conventionally used for infrared heating purposes as well. Therefore, many illumination lamps are "infrared heating elements."

For example, Kim (US 3,769,503) explains in col. 1, lines 14-15 that most commonly-used light sources emit heat as well as light. And such heat is infrared heat as noted in col. 1, lines 31-32. In fact, in certain lighting applications -- especially during cold weather -- the lamp's heat is desired in addition to its light. Col. 1, lines 18-22.

In view of Kim (US 3,769,503), and further noting Holland (US 3,739,792) who in col. 3, lines 31-38 teaches that it is desirable to provide electric heating elements attached to an umbrella that radiate heat downwardly towards the user holding the umbrella -- especially during cold weather (col. 1, lines 7-10) -- it would have been obvious to one of ordinary skill in the art to provide lamps that generate infrared heat and light so that the area underneath the umbrellas was radiantly heated as well as

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illuminated. Such an arrangement would not only enhance visibility, but also relieve the user from cold and dampness during cold weather.

Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), and further in view of JP2002-100208. The claims differ from the previously cited prior art in calling for a reflector to reflect IR energy downwardly. But such reflectors are well known in the art. JP2002-100208, for example, discloses a reflector 4a mounted atop infrared lamp 4b so that both heat and light are directed downwardly where such energy is needed. See Figs. 1-4. In view of JP2002-100208, it would have been obvious to one of ordinary skill in the art to provide a reflector in conjunction with the lamps of the previously described apparatus so that both heat and light are directed downwardly where such energy is needed thus redirecting energy that would otherwise be lost thereby increasing efficiency.

Regarding claim 30, sheet metal is a well-known reflective material and its use does not constitute a patentably distinguishable feature. Regarding claim 31, no criticality is seen in the use of ceramic fiber reflector structures in lieu of the metallic reflectors of the prior art. Accordingly, such reflectors do not constitute a patentably distinguishable feature of the invention.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), Mohn et al (US

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3,313,921), and further in view of GB2381308. The claims differ from the previously cited prior art in calling for the infrared heating element to produce solely infrared heat. Although the prior art lamps disclose providing both infrared heat and light, fabricating a transparent lamp such that its visible light component is attenuated to emit solely infrared energy is well known in the art. Mohn et al (US 3,313,921), for example, discloses in col. 3, line 60 - col. 4, line 8 that the lamp's glass tube can be made of a material that is opaque to visible light. As a result, visible light is excluded and pure infrared energy is emitted for heating purposes.

In addition, GB2381308 teaches that it is desirable to provide a structure for outdoor and patio use that enables the user to select solely infrared heat, light, or both. In particular, GB2381308 discloses a plurality of infrared electric heating panels 3 in conjunction with lights 9 so that both infrared heat and illumination can be provided either simultaneously or independently (emphasis added). See text of claim 5 on Page 2 of GB2381308. Therefore, the user may energize the IR heater panels to emit solely infrared heat or the lights for visible radiation, or both.

In view of Mohn et al (US 3,313,921) (teaching that glass lamp can emit solely infrared heat), and further noting GB2381308 (teaching using solely infrared heat in outdoor heater), it would have been obvious to one of ordinary skill in the art to emit solely infrared heat in the previously described apparatus to so that visible light is excluded and pure infrared energy is emitted for heating as needed.

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Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), JP2002-100208, and further in view of Mohn et al (US 3,313,921). The claims differ from the previously cited prior art in calling for the heating element to comprise quartz glass infrared emitters. But such emitters are well known in the art as evidenced by Mohn et al (US 3,313,921) noting col. 2, line 54. As is well known in the art, quartz is a transparent material commonly used in infrared heating applications in view of its low absorption characteristics. Moreover, by surrounding the infrared radiating filament with a quartz glass envelope, the filament is protected from inadvertent contact thus prolonging the life of the filament as well as protecting the user from accidental contact therewith.

In view of Mohn et al (US 3,313,921), it would have been obvious to one of ordinary skill in the art to provide a quartz glass emitter in the previously described apparatus to use an emitter with a material that not only has low absorption characteristics, but also protects the filament from inadvertent contact thus prolonging the life of the filament as well as protecting the user from accidental contact therewith. Regarding claims 32-33, metal and ceramic are well known infrared heater materials and their use does not constitute a patentably distinguishable feature of the invention.

Claims 1, 2, 4, 6, 8-21, 36, 37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), Mohn et al (US 3,313,921), and further in view of GB2381308. Phyle

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(US 5,584,564) discloses an umbrella with lamps 12 mounted to the outer surfaces of radial supports 22. See Figs. 1, 4, and 5 and col. 3, lines 12-24.

The claims differ from Phyle (US 5,584,564) in calling for an infrared heating element. Although Phyle (US 5,584,564) teaches that the lamps 12 are used to illuminate the area underneath the umbrella, such illumination lamps are conventionally used for infrared heating purposes as well. Therefore, many illumination lamps are "infrared heating elements."

For example, Kim (US 3,769,503) explains in col. 1, lines 14-15 that most commonly-used light sources emit heat as well as light. And such heat is infrared heat as noted in col. 1, lines 31-32. In fact, in certain lighting applications -- especially during cold weather -- the lamp's heat is desired in addition to its light. Col. 1, lines 18-22.

In view of Kim (US 3,769,503), and further noting Holland (US 3,739,792) who in col. 3, lines 31-38 teaches that it is desirable to provide electric heating elements attached to an umbrella that radiate heat downwardly towards the user holding the umbrella -- especially during cold weather (col. 1, lines 7-10) -- it would have been obvious to one of ordinary skill in the art to provide lamps that generate infrared heat and light so that the area underneath the umbrellas was radiantly heated as well as illuminated. Such an arrangement would not only enhance visibility, but also relieve the user from cold and dampness during cold weather.

The claims also differ from the previously cited prior art in calling for the infrared heating element to produce solely infrared heat. Although the prior art lamps disclose providing both infrared heat and light, fabricating a transparent lamp such that its visible

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light component is attenuated to emit solely infrared energy is well known in the art.

Mohn et al (US 3,313,921), for example, discloses in col. 3, line 60 - col. 4, line 8 that the lamp's glass tube can be made of a material that is opaque to visible light. As a result, visible light is excluded and pure infrared energy is emitted for heating purposes.

In addition, GB2381308 teaches that it is desirable to provide a structure for outdoor and patio use that enables the user to select solely infrared heat, light, or both. In particular, GB2381308 discloses a plurality of infrared electric heating panels 3 in conjunction with lights 9 so that both infrared heat and illumination can be provided either simultaneously or independently (emphasis added). See text of claim 5 on Page 2 of GB2381308. Therefore, the user may energize the IR heater panels to emit solely infrared heat or the lights for visible radiation, or both.

In view of Mohn et al (US 3,313,921) (teaching that glass lamp can emit solely infrared heat), and further noting GB2381308 (teaching using solely infrared heat in outdoor heater), it would have been obvious to one of ordinary skill in the art to emit solely infrared heat in the previously described apparatus so that visible light is excluded and pure infrared energy is emitted for heating as needed.

Regarding claims 37 and 39, although Phyle (US 5,584,564) discloses a table associated with the umbrella and lamps, there is no disclosure of providing chairs associated with the table. GB2381308, however, on Page 1, line 7 discloses the use of chairs in conjunction with tables designed to accommodate a parasol inserted within the table. In view of GB2381308, it would have been obvious to one of ordinary skill in the

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art to provide chairs along with the table of the previously described apparatus so that users could sit underneath the parasol.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), Mohn et al (US 3,313,921), GB2381308, and further in view of JP2002-100208. The claims differ from the previously cited prior art in calling for a reflector to reflect IR energy downwardly. But such reflectors are well known in the art. JP2002-100208, for example, discloses a reflector 4a mounted atop infrared lamp 4b so that both heat and light are directed downwardly where such energy is needed. See Figs. 1-4. In view of JP2002-100208, it would have been obvious to one of ordinary skill in the art to provide a reflector in conjunction with the lamps of the previously described apparatus so that both heat and light are directed downwardly where such energy is needed thus redirecting energy that would otherwise be lost thereby increasing efficiency.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), Mohn et al (US 3,313,921), GB2381308, and further in view of Sheppard et al (US 5,216,948). The claim differs from the previously cited prior art in calling for a heat sensor to monitor temperatures of objects heated by the elements. Providing a heat sensor within an electrically-heated shroud, however, is well known in the art. Sheppard et al (US 5,216,948), for example, discloses a thermostat 35 disposed within a heated shroud so

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that heat produced by infrared heater 23 is controlled automatically responsive to sensed temperature. See Fig. 3 and col. 3, lines 43-45 and col. 4, lines 23-28. In view of Sheppard et al (US 5,216,948), it would have been obvious to one of ordinary skill in the art to provide a heat sensor in the previously described apparatus so that heat produced by infrared heater 23 is controlled automatically responsive to sensed temperature.

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), Mohn et al (US 3,313,921), GB2381308, and further in view of Clark et al (US 5,964,233). The claims differ from the previously cited prior art in calling for combustion heating elements. But combustion heating elements for patio umbrellas are well known in the art noting combustion heater 18. See Fig. 1 and col. 2, lines 56-65. In view of Clark et al (US 5,964,233), it would have been obvious to one of ordinary skill in the art to use a combustion heater in the previously described apparatus so that the heater can be used in areas remote from AC power.

The claims also differ from the previously cited prior art in calling for a switch to automatically turn the element off when the umbrella is closed. Such switches, however, are well known in the art as evidenced by Clark et al who discloses a microswitch actuator 52 that turns the heater off when the umbrella is closed. See col. 7, lines 1-12. In view of Clark et al, it would have been obvious to one of ordinary skill in the art to provide a means to switch the heater off upon closing the umbrella so that the

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heater is energized only when it is needed thereby saving energy, improving safety, and prolonging the life of the heating elements.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phyle (US 5,584,564) in view of Kim (US 3,769,503), Holland (US 3,739,792), Mohn et al (US 3,313,921), GB2381308, DE3147085, and further in view of Jane et al (US 6,091,888). The claim differs from the previously cited prior art in calling for a proximity sensor that controls the heating elements responsive to an object near the device. But controlling electric radiant heating elements responsive to objects detected near the heater housing is well known in the art. DE3147085, for example, discloses an automated control system that turns a heater on only when people near the heater are detected. See abstract.

In view of DE3147085, and further noting Jane et al (US 6,091,888) who discloses a proximity sensor array 28 that detects the proximity objects on either side of the heater housing to control the electric heater 15 in col. 2, line 66 - col. 3, line 67, it would have been obvious to one of ordinary skill in the art to provide a proximity sensor to control the heater in the previously described apparatus to energize the heater only when users are near the heater. By energizing the heater only when it is needed (i.e., people are near the device), the system would lower energy costs and prolong the life of the heater.

Allowable Subject Matter

Claims 38 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments have been considered but are deemed to be moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Jeffery whose telephone number is (571) 272-4781. The examiner can normally be reached on Monday - Thursday from 7:00 AM to 4:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans, can be reached on (571) 272-4777. All faxes should be sent to the centralized fax number at (703) 872-9306.

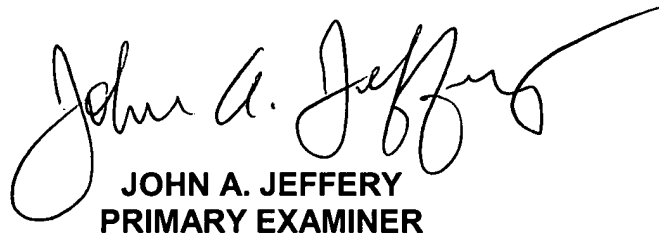
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JOHN A. JEFFERY
PRIMARY EXAMINER

12/29/04